

CHECKLIST FOR HAZARDOUS WASTE REDUCTION OPTIONS FOR THE MOTOR VEHICLE MAINTENANCE INDUSTRY

PARTS WASHING

I. BACKGROUND

- A. Are you using a hazardous solvent in your parts washer(s) ?
(i.e.: petroleum distillates, mineral spirits, naphtha, aromatic hydrocarbons)

☐ YES ☐ NO - skip to next section

Is the flash point less than 140° F (see the MSDS) ? ☐ YES ☐ NO
(If flash point is less than 140° F, the solvent is a hazardous waste.)

How many parts washers do you have? _____

How often are parts washers changed out? _____

Do you contract the service? ☐ YES ☐ NO

- B. Collect manifests, invoices or any other generation and cost records.

How much parts cleaner (solvent) waste is generated per year ?

_____ gallons

Are change outs required for unforeseen spills or contamination ? ☐ YES ☐ NO

How much does your parts cleaner solvent cost ?

_____ per gallon/per year

How much does your parts washer disposal cost ? Include transportation, labor, lab tests and other related expenses.

_____ (per gallon or tank/per year)

- C. Can you base your rate of waste generation on how many parts you clean, how many work orders you complete or any other accounting method ?

II. ELIMINATION/SUBSTITUTION:

Have you tried a non-hazardous cleaner:

Solvent with flash point greater than 140° F ? ☐ YES ☐ NO

Aqueous cleaner ? ☐ YES ☐ NO

- 1) Look for non-hazardous alternatives. Solvent 140 is a petroleum distillate that is considered non-hazardous (non-ignitable) because it has been formulated so that the flash point is higher than 140° F.

Have you checked with suppliers to determine availability?

Have you tried such a product? Does it clean suitably?

Are you adding anything to the solvent that would lower the flash point?

List any barriers or impediments (technical or economical):

What are the positive and negative effects on environment, health and safety and other reduction efforts?

- 2) Hot soap cleaners or other aqueous cleaners are very effective parts wash materials. A hot soap washer may replace parts washers and eliminate all hazardous wastes associated with parts cleaning. Oil skimmers can recover the oil before water is discharged to the POTW. However, wastewater authorities should be consulted to determine if any local limits restrict hot soap wastewater discharges.

Will aqueous cleaners effectively clean all necessary parts?

Due to the cost, could you feasibly replace all parts washers with fewer aqueous cleaners?

Can you discharge the wastewater to the sewer?

List any barriers or impediments (technical or economical):

What are the positive and negative effects on environment, health and safety and other reduction efforts?

III. SOURCE REDUCTION:

- 1) Are washers located near exhaust fans or door drafts? ☐ YES ☐ NO

Do not locate parts washer stations near exhaust fans and door drafts. Keep covers closed when not in use. This will reduce evaporation.

- 2) Is solvent "no longer effective" when it is changed out? ☐ YES ☐ NO

Do not have more parts washer stations than necessary nor schedule unnecessary "pick ups".

- 3) Are parts washers "off" when not in use? ☐ YES ☐ NO

Pumps that are continuously running volatilizes the product into the air. Make sure parts washers are "off" when not in use.

- 4) Are washers kept covered when not in use? ☐ YES ☐ NO

Keep washers covered when not in use to reduce evaporation.

- 5) How/where do parts drip/dry when removed from washer? ☐ YES ☐ NO

Let parts drip dry over a drainboard that drains back into the washer. This will reduce solvent loss and improve housekeeping.

- 6) Are you mixing any non-hazardous chemicals with this waste? ☐ YES ☐ NO

Do not add any non-hazardous substance to the solvent that will increase the volume of waste generated. Keep hazardous and non-hazardous wastes segregated.

- 7) Are employees trained in proper handling? ☐ YES ☐ NO

List any barriers or impediments (technical or economical):

What are the positive and negative effects on environment, health and safety and other reduction efforts?

IV. RECYCLING:

- 1) Could you reuse solvent considered "spent" in one operation in an operation where solvent does not have to be as clean? ☐ YES ☐ NO

Some cleaning operations require a much higher level of cleanliness. Can solvent that is considered too dirty to be used in one operation be transferred and reused in another operation?

- 2) Do you recycle the solvent on-site (distill)? ☐ YES ☐ NO

Install an on-site distillation unit (or other recycling system).

Do you use more than one type of solvent?

Do you have enough volume for a distillation unit to be feasible?

Will distilled solvent meet your cleaning needs?

- 3) Is the solvent being sent for recycling or fuels blending off-site? ☐ YES ☐ NO

List any barriers or impediments (technical or economical):

What are the positive and negative effects on environment, health and safety and other reduction efforts?

PAINTING

I. BACKGROUND

A. What type of paint are you currently using? Circle.

solvent-based
water-based
contains lead
contains heavy metals

Are you mixing any of the above together? _____

Are you thinning the paint? If so, thinner name? _____

Do you have a spray booth? How many? _____

Is it enclosed?

☐ YES ☐ NO

What type? Circle.

dry filter
water-curtain
powder coat

If using dry filter, what type? Circle.

fiber glass
paper
styrofoam
metal
other _____

How often do you change filters? _____

Are you mixing waste paint with waste thinner? ☐ YES ☐ NO

How do you dispose of this waste? Circle.

On-site recycling
Off-site recycling
Fuels blending
Other _____

Do you have a collection/recycle/repurchase contract?

If so, with who? _____

How often? _____

- B. Collect manifests, invoices or any other generation and cost records.

How much paint/thinner waste is generated per year? (separate if applicable)

_____ gallons

Are change outs required for unforeseen spills or contamination? ☐ YES ☐ NO

What is the cost of your paint and thinner?

_____ (paint) per gallon/per year

_____ (thinner) per gallon/per year

What is your waste disposal cost? Include transportation, labor, lab tests and other related expenses.

_____ per gallon/per year

- C. Can you base your rate of waste generation on how many parts you clean, how many work orders you complete or any other accounting method ?

II. ELIMINATION/SUBSTITUTION:

Have you tried a non-hazardous paint (some water-based paints, some powder paints)?

☐ YES ☐ NO

If using paints with heavy metals, have you tried a paint without heavy metals?

☐ YES ☐ NO

Have you tried a high-solids paint? ☐ YES ☐ NO

- 1) Investigate the possibility of replacing solvent-based paints with water-based paints to eliminate the use of solvents and thinners as cleaners.

Use paint without metal pigments.

Use high solids low volatile organic compound paints.

List any barriers or impediments (technical or economical).

What are the positive and negative effects on environment, health and safety and other reduction efforts?

III. SOURCE REDUCTION:

- 1) Do you mix only enough paint to complete a job? ☐ YES ☐ NO

Most small cars can be painted entirely with one quart of paint; touch-ups and damage repair would use substantially less. Different size paint mixing and sprayer cups would enable operators to use the best size. This would mean a source reduction in two ways. It would limit overmixing and decrease the amount of clean-up solvent needed. However, weighing accuracy becomes more critical.

- 2) Do you use a gun cleaner that recirculates the solvent? ☐ YES ☐ NO

Consider investigating in a gun cleaner that recirculates the wash. Gun cleaners can save as much as 30% on disposal and raw material costs. Rather than filling the spray cup with solvent and spraying the solvent into the booth or air, thinner is sprayed through the gun into the cleaning station where it is condensed for reuse.

- 3) Are all paint/thinner container lids kept closed when not in use? ☐ YES ☐ NO

Keep all solvent container lids closed to reduce evaporation.

- 4) Do you reduce paint viscosity with heaters? ☐ YES ☐ NO

Paint viscosity is often reduced using thinners. Investigate the use of heaters to reduce viscosity.

- 5) Do you control paint inventories to avoid unnecessary disposal? ☐ YES ☐ NO

Purchase paints only in quantities needed to avoid discard. Adopt a first-in, first-out inventory practice to reduce wastes associated with expired shelf life.

6) Do you train operators to reduce overspray?

☐ YES ☐ NO

Train operators to reduce overspray:

- a. Use equipment with low overspray. High volume low pressure (HVLP) guns provide high transfer efficiencies.
- b. Maintain proper pressure as identified in operator's manual for specific gun systems. Higher pressures causes paint to bounce off the car and form a fog.
- c. Clean spray gun nozzles.
- d. Replace damaged nozzles.
- e. Maintain a fifty percent overlap of spray pattern.
- f. Keep spray gun perpendicular to the surface.
- g. Maintain gun distance of six to eight inches from workpiece.
- h. Trigger gun at the beginning and end of each stroke.
- i. Do not arc the spray gun and blow paint into the air.

7) Is solvent minimized when cleaning paint cups?

☐ YES ☐ NO

Paint cups should first be scraped free of paint using a plastic spatula and then rinsed with solvent. New Teflon-lined metal paint cups provide easier clean-up.

List any barriers or impediments (technical or economical).

What are the positive and negative effects on environment, health and safety and other reduction efforts?

IV: RECYCLING:

- 1) Do you reuse solvent until its cleaning capability is exhausted? ☐ YES ☐ NO
- 2) Could you reuse solvent considered "spent" in one operation in an operation where solvent does not have to be as clean? ☐ YES ☐ NO
- 3) Do you use gun cleaning solvent to thin paint? ☐ YES ☐ NO

Thinners should be used until the cleaning capacity has been exhausted. If your disposal is set up on a contract basis, make sure solvent is fully exhausted before it is collected for disposal.

- 4) Do you settle solids out of solvents and reuse the solvent for cleaning or thinning?
☐ YES ☐ NO

Gravity separation is inexpensive and relatively easy. The thinner/sludge can be allowed to settle. The clear thinner can be pumped off and used for cleaning. Then only the sludge needs to be disposed.

- 5) Do you distill solvent on-site? ☐ YES ☐ NO

Recycling of paint thinners and solvents can be done on-site with a distillation unit or off-site through a solvent recycler. Distillation units used to reclaim solvents can also be used to recycle paint thinners. Distillation units have been shown to significantly reduce waste generation and disposal costs.

Paint still bottoms have been successfully used to provide undercoatings to protect undercarriages from salt corrosion and rusting.

- 6) Is solvent sent off-site for fuels blending or recycling? ☐ YES ☐ NO

List any barriers or impediments (technical or economical).

What are the positive and negative effects on environment, health and safety and other reduction efforts?